DATA SET MANAGEMENT

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The data sets currently supported by the PCDS were listed, many of which are Level II and Level III Nimbus-7 data sets. Those data sets planned for future access through the PCDS were also listed, and their current installation status was stated.

The tasks involved in supporting data sets within the PCDS were identified and described. After a data set is approved for implementation into the system and communication with the data producers is established, the information for the detailed catalog entry is gathered. This information then is reviewed with the scientists involved before producing a catalog summary. Once this is done, the catalog information can be provided to users, even before the data set is installed. The next several tasks involve software development and can prove to be the most time-consuming aspect in the data set support. These tasks can be simplified if the data producers provide complete and accurate documentation of their product. Software for reading and interpreting the data sets is developed and the data sets, or portions thereof, that will be made available for use within the PCDS are inventoried. Users can access this information via the INVENTORY Subsystem of the PCDS. For example, users can determine whether additional data have been added to the system by using the Tape History Query, one of several queries of the INVENTORY available to PCDS users. The creation of a data-independent CDF also requires the time and skill of a programmer. In addition, there are maintenance costs that reflect the efforts required in updating or replacing data sets, handling changes in INVENTORY and DATA ACCESS programs, and documenting changes in the CATALOG.

Some data sets and subsets of others are currently available on line. There are plans to include other data sets on line when the more robust Version 4.0 becomes operational.

Numerous questions involving on-line availability, funding, data set support, system use, etc., were addressed during this session.

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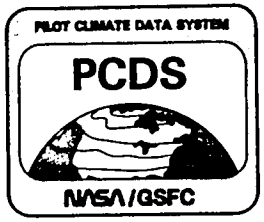
PCDS

DATA SET

MANAGEMENT

January 29, 1986



PCDS DATA SETS

- Angell Atmospheric Temperature Deviations
- FGGE II-b and ECMWF III-b Data Sets
- NASA/FGGE II-c SMMR, ERB, and SBUV
- NMC Octagonal Grids
- Nimbus-4 BUV DPFL and DZP
- Nimbus-5 ESMR Three-day Averages
- Nimbus-7 ERB MATRIX, ZMT, SEFDT
- Nimbus-7 LIMS LAMAT
- Nimbus-7 SBUV OZONE-S
- Nimbus-7 SAM II BANAT
- Nimbus-7 THIR CLDT and CLE
- Nimbus-7 TOMS OZONE-T
- NOAA Heat Budget Data
- SAGE Profiles
- World Monthly Surface Station Climatology

FUTURE PCDS DATA SET SUPPORT

- International Satellite Cloud Climatology Project B3 and C
- Middle Atmospheric Electrodynamics Rocket Dat
- Nimbus-4,5 SCR, STIT
- Nimbus-5 ESMR Monthly
- Nimbus-7 ERB ESAT, SAVER
- Nimbus-7 LIMS LAIPAT
- Nimbus-7 SBUV ZMT, CPOZ
- Nimbus-7 SMMR PARM, MAP
- Nimbus-7 THIR CMATRIX, NCLE, BCLT
- Nimbus-7 TOMS-GRIDS, ZMT
- TIROS-N AVHRR Subsets
- ERBE
- Other Global Solar Flux data sets

PCDS DATA SET SUPPORT TASKS

- Gather information about data set to be supported and prepare detailed entries for the catalog
- Obtain reviews of the new catalog entries
- Summarize catalog information for database and integrate changes to allow user access to data descriptions
- Obtain data set and prepare software for reading and interpreting the native data set format (e.g., tapes)
- Create a data-independent model of the contents of the data set and update inventory appropriately
- Define a CDF for the data
- Prepare software to extract user-selected portions of the data set and output to a CDF, subset tape, or listings and integrate with existing software
- Start maintenance cycle, updating catalog, inventory, data library, or software as necessary

PCDS Catalog Descriptions (1 of 3)

1. TYPE OF DATA

    1.1 Parameter/Measurement
    1.2 Unit of Measurement
    1.3 Data Source
    1.4 Data Set Identification

2. SPATIAL CHARACTERISTICS

    2.1 Spatial Coverage
    2.2 Spatial Resolution

3. TEMPORAL CHARACTERISTICS

    3.1 Temporal Coverage
    3.2 Temporal Resolution

4. INSTRUMENT DESCRIPTION

    4.1 Mission Objectives
    4.2 Key Satellite Flight Parameters
    4.3 Principles of Operation
    4.4 Instrument Measurement Geometry

PCDS Catalog Descriptions (2 of 3)

5. DATA PROCESSING SEQUENCE

    5.1 Processing Steps and Data Sets
    5.2 Derivation Techniques/Algorithms
    5.3 Special Corrections/Adjustments
    5.4 Processing Changes

6. QUALITY ASSESSMENT

    6.1 Data Validation by Producer
    6.2 Confidence Level/Accuracy Judgment
    6.3 Usage Guidance

7. CONTACTS FOR DATA PRODUCTION INFORMATION

8. OUTPUT PRODUCTS AND AVAILABILITY

    8.1 Tape Products
    8.2 Film Products
    8.3 Other Products

PCDS Catalog Descriptions (3 of 3)

9. DATA ACCESS

    9.1 Archive Identification
    9.2 Procedures for Obtaining Data
    9.3 PCDS Status/Plans

10. CONTACTS FOR ARCHIVE/DATA ACCESS INFORMATION

11. REFERENCES

    11.1 Satellite/Instrument/Data Processing Documentation
    11.2 Journal Articles and Study Reports
    11.3 Archive/DBMS Usage Documentation

12. RELATED DATA SETS

13. SUMMARY/SAMPLE

14. NOTES

PARAMETER: OZONE
(Total Ozone Content and Ozone Profiles)

LEVEL: II SENSOR: SBUV MISSION: NIMBUS-7

SPATIAL COVERAGE AND RESOLUTION: Global, 40 mb - 0.4 mb; Horizontal: 200 km x 200 km, Vertical: 2.5 km

TEMPORAL COVERAGE AND RESOLUTION: START TIME: 11/1978
6 days for global coverage, power on 3 days of 4, daylight only; 32 sec/1 observation

TAPE PRODUCTS: Total ozone, reflectivity, mixing ratios, & layer ozone amounts, scan by scan and orbit by orbit (HDSBUV or OZONE-S): approximately 4 6250-bpi tapes/1 year; Compressed profile ozone tape (CPOZ): 4 1600-bpi tapes/1 year

ARCHIVE: NSSDC/PCDS CATALOG REFERENCE: OZ/BN

ARCHIVE STATUS: 5 yrs of HDSBUV in NSSDC/PCDS, 3 yrs of CPOZ in NSSDC only

CATALOG PARAMETERS

Albedo
Chlorophyll Concentration
Cultivation Intensity
Forest Cover
Humidity
Nitrogen Dioxide
Precipitation
Sea Ice Concentration
Sea Surface Temperature
Solar Flux
Surface Pressure
Vegetation Type
Wind Speed
Carbon Dioxide
Cloud Cover
Electron Precipitation
Geopotential Height
Ice Sheet Nitric Acid
Ozone
Radiation Budget
Sea Surface Elevation
Snow Coverage Boundary
Stratospheric Aerosols
Temperature Profiles
Wave Height

CATALOG SOURCES

AEM-2 SAGE
FGGE
GEOS-3 Altimeter
GMS VISSR
GOES-1 through 6 VISSR
GOES-4 through 6 VAS
ITOS-1 SR
LANDSAT MSS
MAE
METEOSAT-2 MIR
Nimbus-4 BUV, SCR
Nimbus-5 ESMR, SCR
Nimbus-6 ERB, ESMR
Nimbus-7 CZCS, ERB, LIMS, SAM II, SBUV, SMMR, THIR, TOMS
NOAA-6 through 9 AVHRR
NOAA-1 through 5 SR
OSTA-1 OCE
Seasat-A Altimeter, SAR, Scatterometer
SMS-1,2 VISSR
TIROS-N AVHRR, TOVS

********** DTYPE = OZONE-S **********

ITEM	PARM	PARAMETER	MISSION & SENSOR
SCAN	OZONE	OZONE	NIMBUS-7 SBUV

TAPEID	ORBIT RANGE	--TAPE TIME RANGE-- START/END	# OF FILES	-GENERATION TIME-	-INVENTORY TIME-
P0692	102	1978/10/31 16:22:02	1001	83/04/16 14:06:00	84/08/01 15:27:49
	1323	1979/01/27 23:42:36			
P0693	1324	1979/01/28 00:34:36	1051	82/09/30 09:04:11	84/08/01 17:21:20
	2580	1979/04/28 22:01:36			
P0694	2582	1979/04/29 00:44:00	972	82/09/26 05:37:33	84/08/01 18:14:44
	3922	1979/08/04 00:45:25			
P0695	3937	1979/08/05 01:56:21	888	82/09/26 06:13:36	84/08/01 19:15:53
	5193	1979/11/04 00:06:49			
P0697	6452	1980/02/03 01:52:28	883	84/04/13 13:25:52	84/10/05 14:00:58
	7708	1980/05/04 00:16:33			
P0698	7709	1980/05/04 01:08:49	889	84/04/13 13:42:03	84/10/09 16:44:11
	8966	1980/08/03 00:57:57			

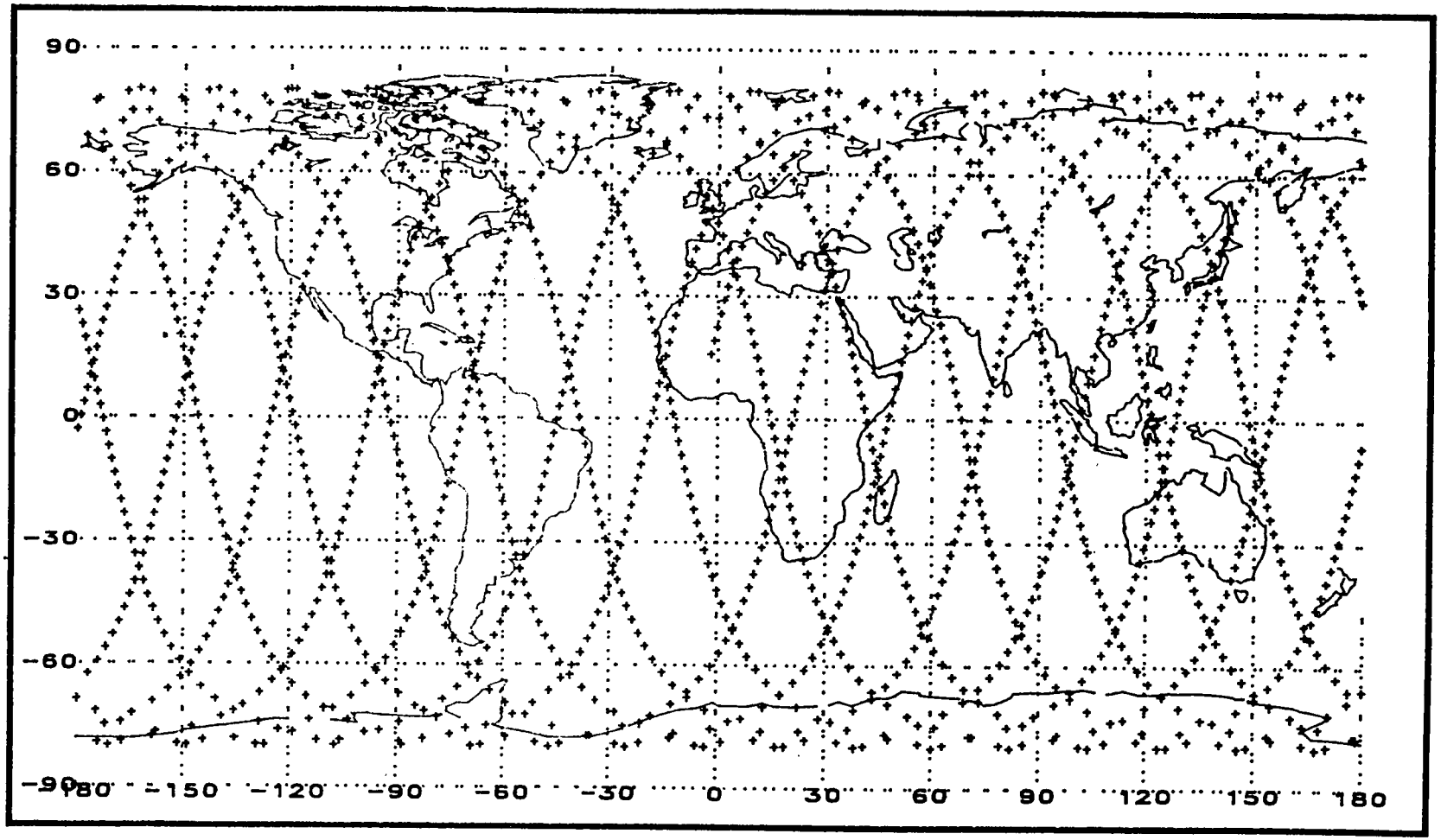
NUMBER OF TAPES = 6 NUMBER OF FILES = 5684

PLOTTED BY PCDS ON 22-JAN-86

PCDS INVENTORY STATISTICS

SUBSATELLITE TRACK FROM 72/01/01 00:00:00 TO 72/01/02 00:00:00

WHERE 0.0 < SOLAR ZENITH ANGLE < 180.0



DPFL-SCAN DATA LOCATION

CYLINDRICAL EQUIDISTANT PROJECTION

PCDS INVENTORY CONTENTS

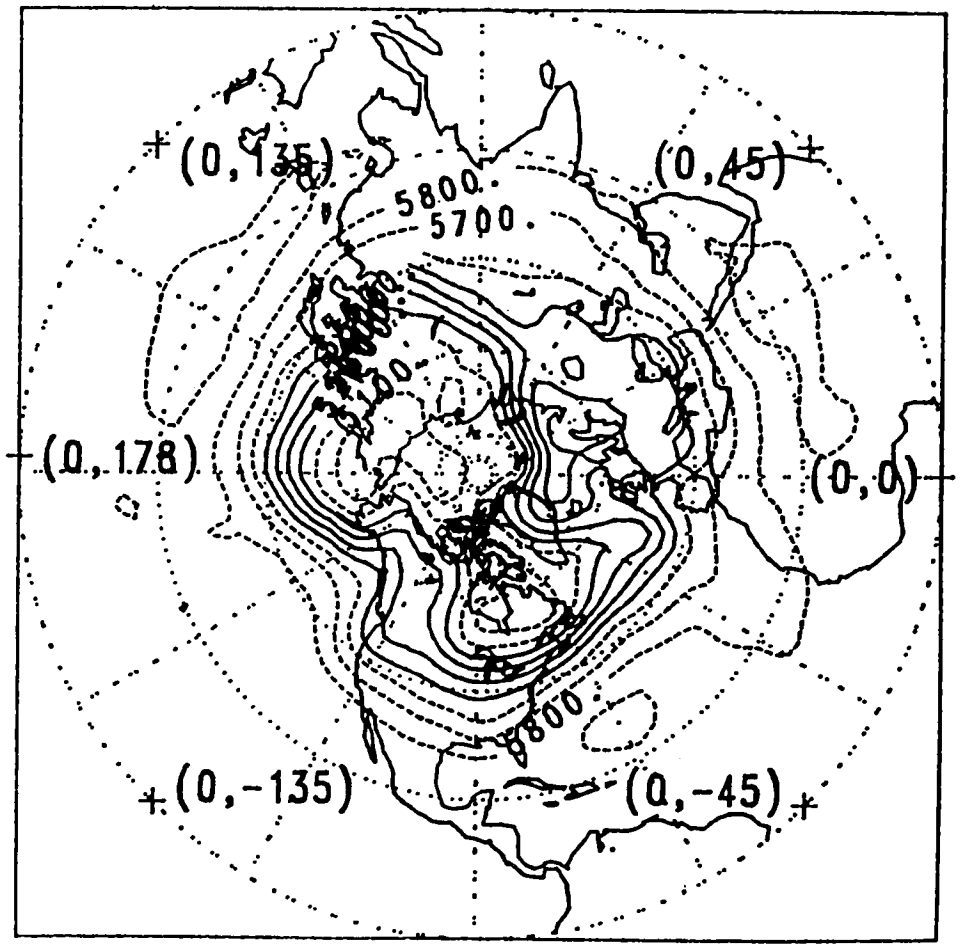
DATA TYPE	TAPE COUNT	START TIME	END TIME
BANAT	58	1978/11/01	1983/10/31
CLDT	16	1978/12/02	1978/12/11
CLE	14	1978/12/02	1978/12/09
DPFL	34	1970/06/01	1977/05/06
DZP	1	1970/04/10	1977/05/06
DZPM	1	1970/04/10	1977/12/31
ERB-MATRIX	38	1978/11/16	1983/01/03
ERB-SEFDT	1	1979/01/01	1979/01/31
ERB-ZMT	4	1978/12/01	1980/11/02
ERBM/FGGE	2	1978/12/02	1979/11/30
ERBZ/FGGE	1	1978/12/02	1979/11/29
FGGE2B	85	1978/12/04	1979/12/01
FGGE3B	80	1978/12/01	1979/11/30
ISCCP-B3	64	1983/06/30	1984/07/31
LIMS-LAMAT	9	1978/10/25	1979/05/29
LIMS/FGGE	8	1978/12/01	1979/05/30
NMCGRD	18	1973/01/01	1981/12/31
NOAA-HB	26	1974/06/01	1982/02/28
OZONE-S	17	1978/10/31	1983/05/08
OZONE-T	89	1978/10/31	1983/11/05
SAGE-PROF	33	1979/02/21	1981/11/18
SBUV/FGGE	12	1978/11/30	1979/11/30
SMMR/FGGE	11	1978/12/01	1979/11/30
SSCLIMATE	3	1738/01/01	1982/12/31

DDCO:[PCDS3.DATA.FGGE3B]ZC011250 PLOTTED BY PCDS ON 21-JAN-86

FGGE3B ( ) ECMWF HGT DATA

THERE ARE 9408 DATA VALUES USED OUT OF 18624 POSSIBLE VALUES

1978/12/01 12:00:00 < DATE TIME < 1978/12/01 12:00:00



N POLAR STEREOGRAPHIC PLOT OF GEOPOT HEIGHT (GPM) AT 500 MB

EXAMPLE OF INVENTORY TAPE HISTORY QUERY

TAPEID	DATA TYPE	-INVENTORY TIME-	ARCHIVER	--TAPE TIME RANGE--	FILES
P1514	ISCCP-B3	85/12/11 16:53:17	REPH	1983/07/08 22:44:11 1983/07/16 22:52:21	108
P1526	ISCCP-B3	85/12/23 17:34:51	RAMEY	1983/10/01 00:06:49 1983/10/09 00:14:42	115
P1527	ISCCP-B3	85/12/23 17:35:29	RAMEY	1983/10/09 00:09:49 1983/10/16 22:35:02	109
P1528	ISCCP-B3	85/12/23 17:36:00	RAMEY	1983/10/16 22:31:42 1983/10/24 22:36:54	115
P1529	ISCCP-B3	85/12/23 17:36:36	RAMEY	1983/10/24 22:32:17 1983/10/31 22:53:12	98
P1530	ISCCP-B3	85/12/23 17:37:06	RAMEY	1983/10/31 22:48:21 1983/11/08 22:56:01	111
P1531	ISCCP-B3	85/12/23 17:38:00	RAMEY	1983/11/08 22:51:21 1983/11/16 22:59:13	114
P1532	ISCCP-B3	85/12/23 17:38:51	RAMEY	1983/11/16 22:54:31 1983/11/24 23:01:23	116

1985/86 ADDITIONS TO PCDS INVENTORY

DATA TYPE	TAPE COUNT	START TIME	END TIME
BANAT	16	1978/11/01	1983/10/31
DZP	1	1970/04/10	1977/05/06
DZPM	1	1970/04/10	1977/12/31
ERB-MATRIX	23	1980/01/02	1983/01/03
ERB-ZMT	2	1979/12/01	1980/11/02
FGGE2B	6	1978/12/24	1979/04/27
FGGE3B	2	1978/12/21	1979/10/18
ISCCP-B3	64	1983/06/30	1984/07/31
LIMS-LAMAT	6	1978/11/23	1979/05/29
NOAA-HB	18	1975/09/01	1982/02/28
OZONE-S	7	1981/05/03	1983/05/08
OZONE-T	30	1979/04/15	1983/11/05
SAGE-PROF	33	1979/02/21	1981/11/18